

REMARKS

The above-identified patent application has been amended and Applicants respectfully request the Examiner to reconsider and again examine the claims as amended.

Claims 1-29 and 52-63 are pending in the application. Claims 3-6, 8-11, 13-20 and 28 are objected to. Claims 1, 2, 7, 12, 21-27, 29 and 52-63 are rejected. Claims 3, 6, 8, 11, 13, 22-24, 27, 28, 29, 52, 53, 55 and 60 are amended herein.

In accordance with the revised provisions of 37 C.F.R. §1.121(c) as enacted on July 30, 2003, a marked up version of the amended claims is provided herein above.

The Examiner rejected Claims 52-63 under 35 U.S.C. §112 second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, the Examiner stated that it was not clear which controller was being referred to in Claims 52 and 60.

Applicants have thus amended Claims 52 and 60 to make clear which controller is being referred to in these claims. In view of the above, Applicants submit that the rejection of Claims 52-63 under 35 U.S.C. §112, second paragraph, should be removed.

The Examiner rejected Claims 1, 2, 7, 12, 21-27, 29 and 52-63 under 35 U.S.C. §103(a) in view of Viti et al. (U.S. Pat No. 6,249,101). The Examiner asserts that Viti shows, in Figure 5, an electrical power system and method comprising all of the claimed subject matter using a switched mode rectifier arranged in a bridge configuration.

The Examiner concedes that Viti shows an electrical power system and motor operation rather than the claimed alternator operation. The Examiner asserts, however, that this is a “reversed function” and that it would have been obvious to one of ordinary skill in the art at the

time the invention was made to utilize the electrical motor system as taught by Viti with an alternator system.

Viti describes a system which solves a problem related to start-up of a multiphase brushless DC motor having one or more rotor position sensors insufficient to provide an angular resolution as high as the angular resolution of the synchronized driving system of the motor. (See USP 6,249,101 Col. 1, line 64 – Col. 2 line 24).

Applicant's system, on other hand, is directed toward providing improved power output at idle speed (See Pat. Appl. No. 10/086,069, Page 7, lines 12-23).

Applicants would like to point out that the claims are directed to an alternator system controllable by a field current. As explained in conjunction with Figs 1A and 1B of the instant patent application, "One approach to controlling alternator output voltage is to utilize a field current regulator as shown in FIG. 1A. In this approach, the field current i_f of a machine 10 is determined by a field current regulator 12 which applies a pulse-width modulated voltage across the field winding." Thus, under normal operation an SMR circuit would not be required or needed to control the alternator system. There would, therefore, be no motivation to provide a second system (i.e. an SMR control system) to the alternator since the alternator already includes a first control system (i.e. the field current regulator).

Thus, Applicants submit that Claim 1 is patentably distinct over the cited reference since the reference neither describes nor suggests, "[an] alternator system, having an alternating current (ac) voltage source ... having an output voltage controllable by a field current thereof ... a switched-mode rectifier (SMR) coupled to the ac voltage source and having an output port coupled to an output of the alternator system ... and a controller coupled to said switched-mode rectifier so as to provide a controlled pulse sequence synchronized with an angular rotor position of the ac voltage source to activate and deactivate said switched-mode rectifier ..." as recited in Claim 1.

Claims 2, 7, 12, 21-26 and 52-63 depend either directly or indirectly from Claim 1 and thus, those claims are also seen as patentable over the cited reference generally for the reasons discussed above in conjunction with Claim 1.

Applicants submit that method Claim 27 is patentably distinct over the cited reference since the reference neither describes nor suggests, “[a] method for controlling an alternator having ... an output voltage controllable by a field current thereof and having a rectifying circuit including a switched mode rectifier ... comprising ... sensing an event synchronized with an angular rotor position of the ac voltage source ... generating a controlled pulse sequence in response to sensing the event ... and providing said controlled pulse sequence to control the switched mode rectifier ...” as recited in Claim 27.

Claim 29 has been amended to depend from Claim 28 which the Examiner indicated as containing allowable subject matter and thus the rejection thereof is now moot and will not be discussed.

In view of the above, Applicants submit that the rejection of Claims 1, 2, 7, 12, 21-27, 29 and 52-63 under 35 U.S.C. §103(a) should be removed.

In the Office Action, the Examiner indicated that Claims 3, 4-6, 8-11, 13-20 and 28 were objected to but would be allowed if rewritten in independent form including the limitations of the base claim and any intervening claims.

Applicants have rewritten Claims 3, 8, 11, 13 and 28 in independent form including the limitations of their respective base claim and any intervening claims and thus, Claims 3, 8, 11, 13 and 28 are now patentably distinct over the cited reference.

Claims 4, 5, 9, 10 and 14-20 each depend either directly or indirectly from now allowable base Claims and thus, are also patentably distinct over the cited references.

Applicants have also amended Claim 29 to depend from now allowable Claim 28 and thus, Claim 29 is also seen as allowable.

In view of the above amendment and remarks, Applicants submit that Claims 1-29, 52-63 and the entire case are in condition for allowance and should be sent to issue and such action is respectfully requested.

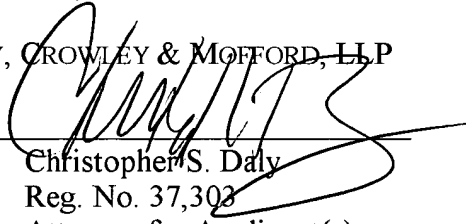
The Examiner is respectfully invited to telephone the undersigning attorney if there are any questions regarding this Amendment or this application.

The Assistant Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 500845.

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Respectfully submitted,

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